

IN THE CLAIMS:

Please amend the claim as follows:

1. (Currently Amended) A wide-band fiber amplifier for amplifying a first and second wavelength band of optical signals, comprising:

a first amplifying unit configured to (1) be pumped in at least one direction, (2) amplify the first and second wavelength bands of optical signals and (3) output Amplified Spontaneous Emission (ASE);

a second amplifying unit configured to be pumped by an amplified ASE and configured to secondarily amplify the amplified ~~first~~second wavelength band optical signal; and

a second-band pumping light source including a third amplifying unit configured to be pumped in at least one direction ~~while being pumped by~~, amplify the ASE from the first amplifying unit, and ~~outputting the amplified ASE, wherein the amplified ASE is used to pump~~ the second amplifying unit.

2. (Original) The wide-band fiber amplifier according to claim 1, wherein the amplified first-band optical signal and the secondarily-amplified second-band optical signal are outputted to an external optical fiber.

3. (Currently Amended) The wide-band fiber amplifier according to claim 2, wherein the first and second band optical signals are C-band and L-band optical signals, respectively, and the second-band pumping light source is an L-band pumping light source.

4. (Original) The wide-band fiber amplifier according to claim 3, wherein the first amplifying unit includes a first amplifying fiber adapted to be pumped in at least one direction.

5. (Currently Amended) The wide-band fiber amplifier according to claim-[[4]]_3, wherein the second amplifying unit includes a second amplifying fiber adapted to be pumped by amplified ASE.

6. (Currently Amended) The wide-band fiber amplifier according to claim-[[5]]_3, wherein the ~~third amplifying unit~~ L-band pumping light source includes a third amplifying fiber adapted to be pumped in at least one direction ~~while being pumped by~~ and amplify the ASE.

7. (Currently Amended) The wide-band fiber amplifier according to claim-[[3]]_4, wherein the first amplifying unit further comprises:

a pumping light source to produce a pumping light with a predetermined wavelength; and
a wavelength selective coupler to output the pumping light to the first amplifying fiber.

8. (Currently Amended) The wide-band fiber amplifier according to claim 7, wherein the first amplifying unit further comprises an optical isolator to allow the C-band and L-band optical signals from the first amplifying fiber to pass, while blocking light in an opposite direction.

9. (Currently Amended) The wide-band fiber amplifier according to claim-[[3]]_6, wherein the L-band pumping light source further comprises:

a first pumping light source to produce a first pumping light with a predetermined wavelength;

a first wavelength selective coupler to output the first pumping light to the third amplifying fiber;

a second pumping light source to produce a second pumping light with a predetermined wavelength; and

a second wavelength selective coupler to output the second pumping light to the third amplifying fiber.

10. (Currently Amended) The wide-band fiber amplifier according to claim 9, wherein the L-band pumping light source further comprises a tunable filter for transmitting only components, corresponding to a predetermined wavelength range, of the ASE from the first amplifying unit.

11. (Currently Amended) The wide-band fiber amplifier according to claim-[[3]]_5, wherein the second amplifying unit further comprises:

a pumping light source to produce a pumping light with a predetermined wavelength; and

a wavelength selective coupler to output the pump light to the second amplifying optical fiber.

12. (Currently Amended) The wide-band fiber amplifier according to claim 3, further comprising:

a first circulator to output (1) received C-band and L-band optical signals to the first amplifying unit, and output received ASE from the first amplifying unit to the L-band pumping light source;

a first wavelength selective coupler to ~~split~~ the C-band and L-band optical signals from the first amplifying unit and output the split ~~L-band~~ C-band optical signal and output the split ~~C-band~~ L-band optical signal to the second amplifying unit;

a second circulator to output received amplified ASE from the L-band pumping light source to the second amplifying unit, ~~and~~ output received secondarily-amplified L-band optical signal from the second amplifying unit; and

a second wavelength selective coupler for receiving the ~~amplified~~ split C-band optical signal from the ~~second port of the and from the third port of the~~ first wavelength selective coupler and the secondarily-amplified L-band optical signal from the second circulator, to and outputting the received optical signals ~~amplified C-band optical signal from the first wavelength selective coupler and the secondarily-amplified L-band optical signal from the second circulator.~~